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Please find below and/or attached an Office communication concerning this application or proceeding.

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Addendum to Advisory

Applicant's arguments with respect to the rejection of claims have been considered but they are not persuasive.

The first few pages (16-17) are summary. The actual arguments begin at line 22 of page 17.

With regards to rejection of the claims under the first paragraph of 35 U.S.C. 112, the applicant has indicated certain pages of the specification arguing that contents of the rejected claims are supported in the mentioned pages without explaining how the claim limitations are related to the cited parts of the specification. The cited portions of the specification do not include the "precise" limitations of the rejected limitations and the applicant has not explained how the cited portions related to the rejected claims.

With regards to claim 39, the rejected limitation within the claim is the following:

"each criterion of said predetermined criteria having been predefined as a condition related to one of maintaining or improving service within a service area of said radio communication system;"

However, page 14 lines 7-20 of the Specification recites the following:

"The measured information collected by information collecting server 1 is related to various operations of the radio communication system depending on trigger conditions. Consequently, not only a map representing an association between positions and reception statuses, but also maps related to various statuses are obtained. For example, a map of information that is acquired when user communications are forcibly disconnected is useful for estimating an area where a radio-wave arrival status is poor. A map of information that is acquired when a handover failure occurs is useful for estimating a position where there is a coverage interruption between radio base stations. A map of information that is acquired when a throughput is lower than a predetermined threshold value is useful for estimating a position where a communication quality is poor. A map of information that is acquired when a call is made is useful for estimating a position where many users are present."

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There is no mentioning of “predetermined criteria having been predefined as a condition related to one of maintaining or improving service within a service area of said radio communication system” in the cited portion of the specification. The applicant has not explained how limitation of the claim relates to the cited portion of the specification.

With regards to claim 39, the rejected limitation is the following:

Regarding claim 87, the claim recites the following limitations:

87. (New) The method of claim 1, wherein said predetermined criteria include at least one of signal loss and a lowering of said signal reception."

However, the specification page 14, line 24 through page 15, line 17 recites the following:

"Then, information collecting server 1 gives a valuable point to the user of mobile radio terminal 21, and sends valuable point information representative of a value (valuable point) given in return for the information provided by the user, to mobile radio terminal 21 (step 106). For non-delay system operation, information collecting server 1 should preferably send valuable point information is sent to mobile radio terminal 21 immediately after the measured information from mobile radio terminal 21. If a traffic buildup is to be prevented, however, information collecting server 1 may delay the timing to send valuable point information. For example, information collecting server 1 may collect several items of valuable point information and thereafter send the collected items of valuable point information. Information collecting server 1 may also send collected items of valuable point information late at night.

Actually, a valuable point may be given by different processes depending on the form of the variable point. For example, if a valuable point can be used to offset a charge to be paid for using the radio communication system, then it may be recorded and managed in information collecting server 1, a billing center (not shown), or a dedicated valuable point managing server. If a valuable point is in the form of electric money related to a bank account, then the valuable point may be sent to a bank server."

There is no mentioning of “predetermined criteria include at least one of signal loss and a lowering of said signal reception” in the cited portion of the specification. The applicant has not explained how limitation of the claim relates to the cited portion of the specification.

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Accordingly, the rejection of dependent claim 87 and independent claim 39 including the dependent claims depending on claim 39 under the first paragraph of 35 U.S.C. 112, is maintained.

The rejection of claims 20-26, 62-67 and 74-87 under the first paragraph of 35 U.S.C. 112, is withdrawn.

Applicant's arguments with respect to the rejection of claims under USC 103(a) has been considered but they are not persuasive.

With respect to claim 1, applicant's argues that "*Primary reference Veerasamy differs from independent claim 1 by its failure to:*

- *respond to a plurality of criterion (e.g., criteria);*
- *acquire reception status of the radio signal upon detection of one of the predetermined criteria; and*
- *report both coordinate position and reception status."*

The examiner respectfully disagrees. Veerasamy teaches the limitation, "respond to a plurality of criterion (e.g., criteria)" for the following reasons:

The limitation "criteria" has not been defined in the specification. Based on a broad reasonable interpretation of the claims, criteria are the events that cause a call drop or RF hole. An artisan would understand that call-drop happens due to variety of reasons. An artisan would understand that some of the events that cause a call drop or RF hole are e.g., weak RSSI or weak signal strength, signal interference, total signal loss, decreased signal strength ... etc. Thus, based on a broad interpretation, the claimed criteria could be any combination of weak RSSI, signal interference, total signal loss, decreased signal strength ... because they all cause the call drop. Veerasamy teaches a mobile terminal detects and reports call drop (see the rejection of claim 1). Thus,

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Veerasamy inherently teaches the claimed criteria because the mobile device in Veerasamy detects call drops (see par. 7-8 and 35-36).

Further, Veerasamy explicitly teaches the limitation, "report coordinate position" in Par. 34 and 35 (note that GPS coordinate position is acquired and sent by the mobile terminal).

With regards to the limitation, "acquire reception status of the radio signal upon detection of one of the predetermined criteria," the examiner asserts that sending signal strength and/or signal quality or general signal information by a mobile terminal in the event of call-drop, an RF hole or handoff is conventional in the art. Although Veerasamy does not literally state the exact limitation, the mobile terminal of Veerasamy must send signal strength indicator information because conventionally a mobile terminal measures the received signal strength and sends an RSSI to the base station(s) to keep the network informed of handoff possibilities. Therefore, although the cellular system of Veerasamy conventionally teaches the above limitation because Veerasamy describes a cellular communication system, the examiner has used Ma to show that the limitation, "acquire reception status of the radio signal upon detection of one of the predetermined criteria," is conventional in the art.

Ma teaches the limitation "acquire reception status of the radio signal upon detection of one of the predetermined criteria" in Par. 36. In this paragraph, Ma teaches that a mobile terminal, in response to a handover, sends measured signal strength values to a base station. An artisan would understand that a handoff occurs due to weak signal strength, poor signal quality or signal deterioration, which all can be interpreted as the

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claimed criteria, based on a broad reasonable interpretation. Thus, every claimed limitation is taught by Veerasamy, Ma or Admitted Art.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both references cover the cellular communication technology. Ma is used only to show a conventional feature of cellular communication system. Further, the occurrences of handover, call loss or RF hole happens in all cellular systems including the cellular systems of Ma and Veerasamy.

In response to arguments that the motivation is not sufficient, the examiner respectfully disagrees. The addition of Ma reference is for the purpose of showing that the mobile station sends signal strength information. Veerasamy does not show such limitation, for the purpose of informing the network of the quality of signals at various RF holes, which provides an efficient communication system. Applicant's arguments that Veerasamy teaches handoff and Ma is not necessarily needed is not persuasive. Ma is used to teach a limitation that is not specifically disclosed in Veerasamy. Further, Ma is used to teach the limitation, "reception status of a radio signal", not handoff.

Further, the rationale for combining Ma with Veerasamy is to report signal status to the base station after the occurrence of call loss (RF hole) so that the network or base

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station can keep track of these RF holes and make responsible measure, thus providing an efficient communication system.

In response to applicant's argument that Ma is non-analogous and there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). Both references cover the cellular communication technology. Ma is used only to show a conventional feature of cellular communication system. Further, the occurrences of handover, call loss or RF hole happens in all cellular systems including the cellular systems of Ma and Veerasamy. Further, combining Ma with Veerasamy is to report signal status to the base station after the occurrence of call loss (RF hole) so that the network can keep track of these RF holes and make responsible measure, e.g., building database or map, thus providing an efficient communication system.

In response to arguments that the Ma reference is non-analogous because it is classified in a different sub-classification in the USPTO system, the examiner respectfully disagrees. The examiner asserts that a reference being in a different USPTO classification does not render the reference non-analogous (see **MPEP 2141.01(a)**).

In response to arguments with regards to dependent claims 5, 43, 53, that there is no suggestion to report when a call is made and that handover is a different concept, the examiner respectfully disagrees. The examiner asserts that a call must be made in order to have a communication session. During the communication session signal loss can occur and handover as well. *The claim does not indicate during the initiating of the call.* Thus, based on a broad reasonable interpretation of the claim, the cited prior art teaches the limitation.

In response to arguments with respect to claims 56 and 62, in response to arguments that there is no suggestion of acquiring received signal quality or receive signal intensity of a common channel, the examiner respectfully disagrees. Fig. 1 and Par. 24 of Veerasamy discloses a CDMA cellular communication system. In a CDMA system information type of reception status includes the received signal quality and received signal intensity of a common pilot channel. Thus, Veerasamy's CDMA system inherently discloses this feature.

With regards to rejection under Official notice, the features of claim 3 is rejected in Lee (US 6,301,234), col. 3 line 44 – Col. 4, line 5. An Artesian having access to the disclosure of Lee of would be able to combine the cited references to reach the claimed features.

With respect to claim 76, 77, 78 and 79, based on a broad interpretation of the claims, the plurality of conditions causing the trigger can be any combination of a lost-call, poor received signal strength and/or poor signal quality (signal deterioration) due to shadowing, delay spread, fading and other fundamental signal deterioration factors, and also interference, ... etc. Veerasamy disclose call loss as shown in the rejection of claim

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1 and Ma discloses received signal strength. **Text book, Wireless Communications, by Rappaport (ISBN#: 013-042232-0), pages 135-230, hereinafter Rappaport**, teaches these fundamentals signal attributes. Thus, an artisan would understand that multiple other conditions (e.g., signal conditions) can cause the trigger, as taught by Rappaport.

With respect to claim 74, the concept of sending the report immediately after it occurs is conventional in the art. Based on a broad interpretation of claim, immediately could be within any time after the mobile device gains its capability or connectability. Thus, Veerasamy could read on the limitation as well. Veerasamy sends the report immediately after it reacquires connection since the claim has not clearly defined “immediately”. However, Joeng (US 6195552) teaches the concept of sending such report immediately (see Column 4).

With respect to claim 86, claim 86 includes the limitation, “wherein said information collecting server transmits said trigger so that a plurality of mobile radio terminals simultaneously start measuring information and sending the measured information to the information collecting sever.” The examiner asserts that an artisan would be able to recognize that the concept of claim 1 is applied to multiple mobile devices. An artisan would further understand that when a concept is applied to one device it can also be applied to multiple devices. Therefore, when multiple mobile devices are found in the same area of RF hole, then each one will send the signal report. Reference Tong (US 2001/0034236) at paragraph 51 teaches that plurality of mobile devices send pilot signal indicating C/I or signal quality.

Applicant’s arguments with respect to claims 80-82 have been considered but they are not persuasive.

In response to arguments that Mile'n is non-analogous, the examiner respectfully disagrees. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). Both references cover the cellular communication technology. Mile'n is used only to show a conventional feature of cellular communication system. The additional features of synchronization and the cited portions of Mile'n by the applicant have nothing to do with the references being non-analogous because the Mile'n teaches a conventional element of cellular communications.

In response to arguments that Mile'n does not disclose both reception quality and intensity. The examiner respectfully disagrees and asserts that the claim includes an alternative claim limitation. The claims states "at least one of a reception quality and intensity." Based on the alternative claim limitation, the teachings of Mile'n read on the claimed limitations.

With respect to claim 82, applicant's arguments have been considered but they are not persuasive. As a preliminary matter, claim 82 depends on claim 81 which includes an alternative claim limitation. Reference Mile'n has been used to show one of the claimed limitations, "reception quality." Claim 82 depending on claim 1, also claims the alternative limitation, "reception quality." The examiner only needs to show that a reception quality includes the received signal quality of a common pilot channel. An

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artesian would understand that in CDMA systems, reception status information is transmitted which include received signal quality of a common pilot channel.

Reference Imai (US 7,050,482) teaches the above claimed and conventional limitations in Col. 9, line 65 through Col. 11, line 45.

With regards to claim 6, 44, 54 and 85, the rejection of the claim is withdrawn and they would be allowable if they are combined with all the limitations of the claims that they depend on.